

SEQUENCE LISTING

<110> F. Hoffmann-La Roche AG

<120> Expression system for preparing IL-15/Fc fusion proteins and its use

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<150> 04008881.7
<151> 2004-04-14

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<170> PatentIn version 3.1

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| tcaatacggg ataataccgc gccacatagc agaacttaa aagtgtcat cattggaaaa | 7140 |
| cgttcttcgg ggcgaaaact ctcaaggatc ttaccgtgt tgagatccag ttcgatgtaa | 7200 |
| cccaactcgtg caccaactg atcttcagca tctttactt tcaccagcgt ttctgggtga | 7260 |
| gcaaaaacag gaaggcaaaa tgccgcaaaa aaggaaataa gggcgacacg gaaatgtga | 7320 |
| atactcatac tcttccttt tcaatattat tgaagcattt atcagggtta ttgtctcatg | 7380 |
| agcggataca tatttgaatg tatttagaaa aataaacaaa taggggttcc ggcacattt | 7440 |
| ccccgaaaag tgccacctga cgtc | 7464 |

<210> 3

<211> 1113

<212> DNA

<213> Artificial sequence

<220>

<223> DNA for mutated IL-15/Fc with CD5 leader

| | |
|--|-----|
| <400> 3 | |
| atgcccattgg ggtctctgca accgctggcc accttgcatt tgctggggat gctggtcgct | 60 |
| tcctgcctcg gaaactgggt gaatgtataa agtgatttga aaaaaattga agatcttatt | 120 |
| caatctatgc atattgatgc tactttatatacggaaatgt atgttcaccc cagttgcaaa | 180 |
| gtaacagcaa tgaagtgcatt tctcttgag ttacaaggta tttcaatttga gtccggagat | 240 |
| gcaagtattt atgatacagt agaaaatctg atcatccttag caaacaacag tttgtcttct | 300 |
| aatggaaatg taacagaatc tggatgcaaa gaatgtgagg aactggagga aaaaaatattt | 360 |
| aaagaatttt tggacagttt tgtacatatt gtcgacatgt tcatcaacac ttcggatccc | 420 |
| aaatctgctg acaaaaactca cacatgccca ccgtgcccag cacctgaact cctgggggga | 480 |
| ccgtcagtct tctcttcccc cccaaaaccc aaggacaccc tcatgatctc ccggacccct | 540 |

| | |
|--|------|
| gaggtcacgt gcgtgggtt ggacgtgagc cacgaagacc ctgaggtcaa gttcaactgg | 600 |
| tacgtggacg gcgtggaggt gcataatgcc aagacaaggc cgcggggaga gcagtacaac | 660 |
| agcacgtacc gtgtggtcag cgtcctcacc gtcctgcacc aggactggct gaatggcaag | 720 |
| gagtacaagt gcaagggtctc caacaaagcc ctcccagccc ccatcgagaa aaccatctcc | 780 |
| aaagccaaag ggcagccccg agaaccacag gtgtacaccc tgcccccatt ccgggatgag | 840 |
| ctgaccaaga accaggtcaag cctgacctgc ctggtcaaag gcttctatcc cagcgacatc | 900 |
| gcccgtggagt gggagagcaa tgggcagccg gagaacaact acaagaccac gcctcccgta | 960 |
| ctggactccg acggctcctt cttcccttac agcaagctca ccgtggacaa gagcagggtgg | 1020 |
| cagcagggga acgttttctc atgctccgtg atgcatgagg ctctgcacaa ccactacacg | 1080 |
| cagaagagcc tctccctgtc tccggtaaa tga | 1113 |

<210> 4

<211> 370

<212> PRT

<213> Artificial sequence

<220>

<223> Amino acid sequence of human CRB-15 with CD5 leader

<400> 4

| | | | |
|---|---|----|----|
| Met Pro Met Gly Ser Leu Gln Pro Leu Ala Thr Leu Tyr Leu Leu Gly | | | |
| 1 | 5 | 10 | 15 |

| | | |
|---|----|----|
| Met Leu Val Ala Ser Cys Leu Gly Asn Trp Val Asn Val Ile Ser Asp | | |
| 20 | 25 | 30 |

| | | |
|---|----|----|
| Leu Lys Lys Ile Glu Asp Leu Ile Gln Ser Met His Ile Asp Ala Thr | | |
| 35 | 40 | 45 |

| | | |
|---|----|----|
| Leu Tyr Thr Glu Ser Asp Val His Pro Ser Cys Lys Val Thr Ala Met | | |
| 50 | 55 | 60 |

| | | | |
|---|----|----|----|
| Lys Cys Phe Leu Leu Glu Leu Gln Val Ile Ser Leu Glu Ser Gly Asp | | | |
| 65 | 70 | 75 | 80 |

| | | |
|---|----|----|
| Ala Ser Ile His Asp Thr Val Glu Asn Leu Ile Leu Ala Asn Asn | | |
| 85 | 90 | 95 |

Ser Leu Ser Ser Asn Gly Asn Val Thr Glu Ser Gly Cys Lys Glu Cys
100 105 110

Glu Glu Leu Glu Glu Lys Asn Ile Lys Glu Phe Leu Asp Ser Phe Val
115 120 125

His Ile Val Asp Met Phe Ile Asn Thr Ser Asp Pro Lys Ser Ala Asp
130 135 140

Lys Thr His Thr Cys Pro Pro Cys Pro Ala Pro Glu Leu Leu Gly Gly
145 150 155 160

Pro Ser Val Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr Leu Met Ile
165 170 175

Ser Arg Thr Pro Glu Val Thr Cys Val Val Val Asp Val Ser His Glu
180 185 190

Asp Pro Glu Val Lys Phe Asn Trp Tyr Val Asp Gly Val Glu Val His
195 200 205

Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln Tyr Asn Ser Thr Tyr Arg
210 215 220

Val Val Ser Val Leu Thr Val Leu His Gln Asp Trp Leu Asn Gly Lys
225 230 235 240

Glu Tyr Lys Cys Lys Val Ser Asn Lys Ala Leu Pro Ala Pro Ile Glu
245 250 255

Lys Thr Ile Ser Lys Ala Lys Gly Gln Pro Arg Glu Pro Gln Val Tyr
260 265 270

Thr Leu Pro Pro Ser Arg Asp Glu Leu Thr Lys Asn Gln Val Ser Leu
275 280 285

Thr Cys Leu Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala Val Glu Trp
290 295 300

Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr Pro Pro Val
305 310 315 320

Leu Asp Ser Asp Gly Ser Phe Phe Leu Tyr Ser Lys Leu Thr Val Asp
325 330 335

Lys Ser Arg Trp Gln Gln Gly Asn Val Phe Ser Cys Ser Val Met His

340

345

350

Glu Ala Leu His Asn His Tyr Thr Gln Lys Ser Leu Ser Leu Ser Pro
355 360 365

Gly Lys
370

<210> 5

<211> 371

<212> PRT

<213> Artificial sequence

<220>

<223> Amino acid sequence of murine IL-15/Fc (human mutated IL-15,
murine IgG2A) with CD5 leader

<400> 5

Met Pro Met Gly Ser Leu Gln Pro Leu Ala Thr Leu Tyr Leu Leu Gly
1 5 10 15

Met Leu Val Ala Ser Cys Leu Gly Asn Trp Val Asn Val Ile Ser Asp
20 25 30

Leu Lys Lys Ile Glu Asp Leu Ile Gln Ser Met His Ile Asp Ala Thr
35 40 45

Leu Tyr Thr Glu Ser Asp Val His Pro Ser Cys Lys Val Thr Ala Met
50 55 60

Lys Cys Phe Leu Leu Glu Leu Gln Val Ile Ser Leu Glu Ser Gly Asp
65 70 75 80

Ala Ser Ile His Asp Thr Val Glu Asn Leu Ile Ile Leu Ala Asn Asn
85 90 95

Ser Leu Ser Ser Asn Gly Asn Val Thr Glu Ser Gly Cys Lys Glu Cys
100 105 110

Glu Glu Leu Glu Glu Lys Asn Ile Lys Glu Phe Leu Asp Ser Phe Val
115 120 125

His Ile Val Asp Met Phe Ile Asn Thr Ser Asp Pro Arg Gly Pro Thr

130

135

140

Ile Lys Pro Cys Pro Pro Cys Lys Cys Pro Ala Pro Asn Leu Leu Gly
145 150 155 160

Gly Pro Ser Val Phe Ile Phe Pro Pro Lys Ile Lys Asp Val Leu Met
165 170 175

Ile Ser Leu Ser Pro Ile Val Thr Cys Val Val Val Asp Val Ser Glu
180 185 190

Asp Asp Pro Asp Val Gln Ile Ser Trp Phe Val Asn Asn Val Glu Val
195 200 205

His Thr Ala Gln Thr Gln Thr His Arg Glu Asp Tyr Asn Ser Thr Leu
210 215 220

Arg Val Val Ser Ala Leu Pro Ile Gln His Gln Asp Trp Met Ser Gly
225 230 235 240

Lys Glu Phe Lys Cys Lys Val Asn Asn Lys Asp Leu Pro Ala Pro Ile
245 250 255

Glu Arg Thr Ile Ser Lys Pro Lys Gly Ser Val Arg Ala Pro Gln Val
260 265 270

Tyr Val Leu Pro Pro Pro Glu Glu Glu Met Thr Lys Lys Gln Val Thr
275 280 285

Leu Thr Cys Met Val Thr Asp Phe Met Pro Glu Asp Ile Tyr Val Glu
290 295 300

Trp Thr Asn Asn Gly Lys Thr Glu Leu Asn Tyr Lys Asn Thr Glu Pro
305 310 315 320

Val Leu Asp Ser Asp Gly Ser Tyr Phe Met Tyr Ser Lys Leu Arg Val
325 330 335

Glu Lys Lys Asn Trp Val Glu Arg Asn Ser Tyr Ser Cys Ser Val Val
340 345 350

His Glu Gly Leu His Asn His His Thr Thr Lys Ser Phe Ser Arg Thr
355 360 365

Pro Gly Lys
370